

Fiscal Year 2006 Annual Report

East Pottawattamie County SWCD

Project Name: **Jordan Creek Water Quality Project**
Project Number: **078-2.06**

Planning Period: **October 1, 2005 to September 30, 2006**

Date Report Prepared: **October 11, 2006**

Reporting Individual: **Daniel Case**

Preparer's Signature:

SWCD Chairperson's Signature:

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FY06 PLAN OF OPERATIONS

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Project Administration

Goals:

- A. Prepare monthly, quarterly, annual and final project reports.
- B. Obtain needed training for project coordinator and cooperators in project.
- C. Develop budget and plan of operations for FFY2007.

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Project Management

Goals:

- A. Utilize assessment data to identify and prioritize critical areas.
- B. Manage the project to maintain quality control and to maximize communication with, and involvement of, local advisors and state and local staff of participating agencies.

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Information & Education

Goals:

- A. Implement a comprehensive I&E program that reaches residents and landowners within the watershed.

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Water Quality Practices

Goals:

- A. Identify landowners in priority areas and determine what practices they will implement in FFY 2006.

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Measures of Success

Goals:

- A. Identify the impact of I & E activities and BMPs implemented within the watershed.

Project Administration

Goals:

A. Prepare monthly, quarterly, annual review and final project reports.

ACTION ITEMS

1. Have monthly and quarterly reports prepared for the monthly commissioners meeting and sent to DSC by 15th of the month following.

Responsible person:	Start:	End:	%Completion:
Project Coordinator	10/05	09/06	100 % completed

Remarks:

Monthly Report Check off

Month	Oct. 05	Nov. 05	Dec. 05
Date Submitted	x	12/20/05	1/4/06

Month	Jan. 06	Feb. 06	Mar. 06	Apr. 06	May 06	June 06
Date Submitted	1/30	3/2	4/3	5/3	6/8	6/26

Month	July 06	Aug. 06	Sept .06
Date Submitted	8/1	9/1	10/6

Quarterly Report Check off

Quarter	Oct.-Dec. 05	Jan.-Mar. 06	Apr.-June 06
Date Submitted	12/27	4/3	7/14

Quarter	July-Sept. 06
Date Submitted	

2. Conduct one annual meeting to review project progress and present annual report.

Responsible person:	Start:	End:	% Completion:
Project Coordinator	10/05	09/06	100%

Remarks: Meeting was held September 28th.

B. Obtain needed training for project coordinator.

ACTION ITEMS

1. Schedule with DSC and NRCS training courses for the project coordinator.

Responsible person:	Start:	End:	% Completion:
Project Coordinator	10/05	09/06	100 %

Remarks: Project coordinator attended project coordinator meeting.

C. Develop budget and plan of operations for FFY2007.

ACTION ITEMS

1. Form a FFY2007 budget and POO using input from Advisory Committee, District office staff, and District Commissioners.

Responsible person:	Start:	End:	% Completion:
Project Coordinator	10/05	5/06	100 %

Remarks: Submitted May 06.

Project Management

Goals:

A. Utilize assessment data to identify and prioritize critical areas.

ACTION ITEMS

1. Complete data collection; compile and analyze data collected for: gully survey, pasture condition assessment, RUSLE calculations, sediment delivery calculations, and water quality monitoring.

Responsible person:	Start:	End:	% Completion:
SWCD Staff	4/04	6/05	100 %

Remarks: Currently working on continuing the water monitoring program, also sent info to DNR for GIS assessment.

2. Analyze results of two landowner surveys.

Responsible person:	Start:	End:	% Completion:
SWCD Staff	6/04	4/05	100 %

Remarks:

B. Manage the project to maintain quality control and to maximize communication with, and involvement of, local advisors and state and local staff of participating agencies.

ACTION ITEMS

1. Organize a Jordan Creek Watershed Advisory Committee.

Responsible person:	Start:	End	% Completion:
Project Coordinator	12/05	1/06	100 %

Remarks: Held first meeting in January.

2. Report monthly progress to SWCD Commissioners.

Responsible person:	Start:	End	% Completion:
Project Coordinator	10/05	9/06	100 %

Remarks: Attended all commissioner meetings. Discussed progress in Jordan Creek.

3. Update assessment data and gather new data as necessary.

Responsible person:	Start:	End	% Completion:
Project Coordinator	10/05	9/06	100 %
SWCD Staff			

Remarks:

4. Develop and expand partnerships to encourage cooperation and expand potential funding sources.

Responsible person:	Start:	End	% Completion:
Project Coordinator	10/05	9/06	100 %
SWCD Staff			

Remarks: Pheasants Forever, Hungry Canyons Alliance, US Fish & Wildlife Service, DNR Fisheries.

Information & Education

Goals:

A. Implement a comprehensive I&E program that reaches residents and landowners within the watershed.

ACTION ITEM

1. Develop and submit 6 news releases; deliver 4 presentations for watershed and county residents focusing on water quality issues.

Responsible person:	Start:	End	% Completion:
Project Coordinator	10/05	9/06	100 %

Remarks: Published one Newsletter this quarter, did one radio spot.

2. Develop and maintain Jordan Creek Watershed page on the district website.

Responsible person:	Start:	End	% Completion:
Kevin Seavers	10/05	9/06	100 %

Remarks: Kevin Seavers has agreed to update this page.

3. Host one educational field day for residents within the watershed.

Responsible person:	Start:	End	% Completion:
Project Coordinator	10/05	9/06	100 %

Remarks: Spoke at 3 field days for local youth.

4. Host one public information meeting for residents and landowners within the watershed.

Responsible person:	Start:	End	% Completion:
Project Coordinator	10/05	2/06	100 %

Remarks: Held meeting in February, 26 owners/ operators in attendance.

Water Quality Practices

Goals:

A. Identify landowners in priority areas and determine what practices they will implement in FFY 2006-7.

ACTION ITEMS

1. Implement 100,000 ft. of terraces and intakes (as needed) for fall, spring, or summer construction.

Responsible person:	Start:	End	% Completion:
Project Coordinator SWCD Staff	10/05	9/06	100 %

Remarks: 79,000 feet of terrace has been constructed or planned this spring. 83,350,000 feet of rebuilds.

2. Implement 10,000 ft. of waterway accompanied by 20,000 ft. of tile for fall, spring or summer construction.

Responsible person:	Start:	End	% Completion:
Project Coordinator SWCD Staff	10/05	9/06	26 %

Remarks: Installed 2650 feet of waterway.

3. Implement 2 grade stabilizations structures for fall, spring or summer construction.

Responsible person:	Start:	End	% Completion:
Project Coordinator SWCD Staff	10/05	9/06	50 %

Remarks: One is currently under construction, the other waiting until crops are out.

4. Implement 50 acres grazing practices for fall, spring or summer construction.

Responsible person:	Start:	End	% Completion:
Project Coordinator SWCD Staff	10/05	9/06	0%

Remarks:

5. Implement 3 livestock heavy use protection practices for fall, spring or summer construction.

Responsible person:	Start:	End	% Completion:
Project Coordinator SWCD Staff	10/05	9/06	33%

Remarks: Fenced creek in conjunction with filter strips utilizing the CRP program.

6. Install 2,500 ft. of pipeline and 2 livestock watering tanks or troughs to be used in conjunction with heavy use protection practices for fall, spring or summer construction.

Responsible person:	Start:	End	% Completion:
Project Coordinator SWCD Staff	10/05	9/06	0 %

Remarks:

7. Install 50 acres of pasture/hayland planting within watershed.

Responsible person:	Start:	End	% Completion:
Project Coordinator SWCD Staff	10/05	9/06	40 %

Remarks: Pasture planting 20.4 acres.

8. Install 10 acres of contour buffers and filter strips within the watershed.

Responsible person:	Start:	End	% Completion:
Project Coordinator SWCD Staff	10/05	9/06	50 %

Remarks: Installed approximately 20 acres of filter strips.

Measures of Success

Goals:

A. Identify the impact of I & E activities and BMPs implemented within the watershed.

ACTION ITEMS

1. Estimate the number of people reached by each I & E activity.

Responsible person:	Start:	End	% Completion:
Project Coordinator SWCD Staff	10/05	9/06	100%

Remarks:

2. Continue every other week turbidity testing and chemical and physical data collection; bi-annual biological sampling and analyze water monitoring data to establish trends.

Responsible person:	Start:	End	% Completion:
Project Coordinator	10/05	9/06	100%

Remarks: Started utilizing IOWATER methods and collecting samples to send to ISU. Started sampling only after rain events.

FINANCIAL REPORT:

Fiscal Year:	2006
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Project:	Jordan Creek
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Line Item	Individual Budget Item	Funding Source	Original Allocation	Obligated	Expended	Unobligated Balance
1	Salary/Benefits	319	\$40,500.00	\$0.00	\$40,500.00	\$0.00
2	Indirect Cost		\$8,500.00	\$0.00	\$8,500.00	\$0.00
3	Travel & Training	WPF	\$2,500.00	\$0.00	\$0.00	\$2,500.00
4	Supplies	319	\$1,250.00	\$0.00	\$357.78	\$892.22
5	Contractual Services	Other	\$2,250.00	\$0.00	\$0.00	\$2,250.00
6	Information & Education	Other	\$300.00	\$0.00	\$0.00	\$300.00
7	Equipment			\$0.00	\$0.00	\$0.00
8	Terraces Priority 1	Other	\$15,000.00	\$0.00	\$18,500.64	\$3,500.64
9	Terraces Priority 1	319	\$30,000.00	\$12,315.00	\$17,075.00	\$610.00
10	Terraces Priority 2	WSPF	\$35,432.50	\$0.00	\$14,266.25	\$21,166.25
11	Terraces Priority 2	Other	\$9,000.00	\$0.00	\$2,405.25	\$6,594.75
12	Tile w/Terraces	WSPF	\$15,000.00	\$0.00	\$253.23	\$14,746.77
13	Tile w/Terraces	Other	\$7,500.00	\$0.00	\$7,372.60	\$127.40
14	Waterways	WSPF	\$5,000.00	\$0.00	\$1,325.00	\$3,675.00
15	Waterways	Other	\$2,500.00	\$0.00	\$662.50	\$1,837.50
16	Tile w/Waterways	WSPF	\$5,567.50	\$0.00	\$1,437.50	\$4,130.00
17	Tile w/Waterways	Other	\$5,500.00	\$0.00	\$3,868.75	\$1,631.25
18	Grade Stabilization	WSPF	\$10,000.00	\$0.00	\$0.00	\$10,000.00
19	Grade Stabilization	Other	\$5,000.00	\$0.00	\$0.00	\$5,000.00
20	Heavy Use Protection	WSPF	\$900.00	\$0.00	\$0.00	\$900.00
21	Heavy Use Protection	Other	\$450.00	\$0.00	\$0.00	\$450.00
22	Prescribed Grazing	WSPF	\$1,000.00	\$0.00	\$0.00	\$1,000.00
23	Prescribed Grazing	Other	\$500.00	\$0.00	\$0.00	\$500.00
24	Pasture Planting	WSPF	\$1,000.00	\$604.82	\$0.00	\$395.18
25	Pasture Planting	Other	\$500.00	\$302.41	\$0.00	\$197.59
26	Pipeline	WSPF	\$2,500.00	\$0.00	\$0.00	\$2,500.00
27	Pipeline	Other	\$1,250.00	\$0.00	\$0.00	\$1,250.00
28	Trough or Tank	WSPF	\$300.00	\$0.00	\$0.00	\$300.00
29	Trough or Tank	Other	\$150.00	\$0.00	\$0.00	\$150.00
30	Contour Buffers & Filters			\$0.00	\$0.00	\$0.00
31	Terraces-Priority 3	Other	\$12,896.25	\$0.00	\$16,567.45	\$3,671.20

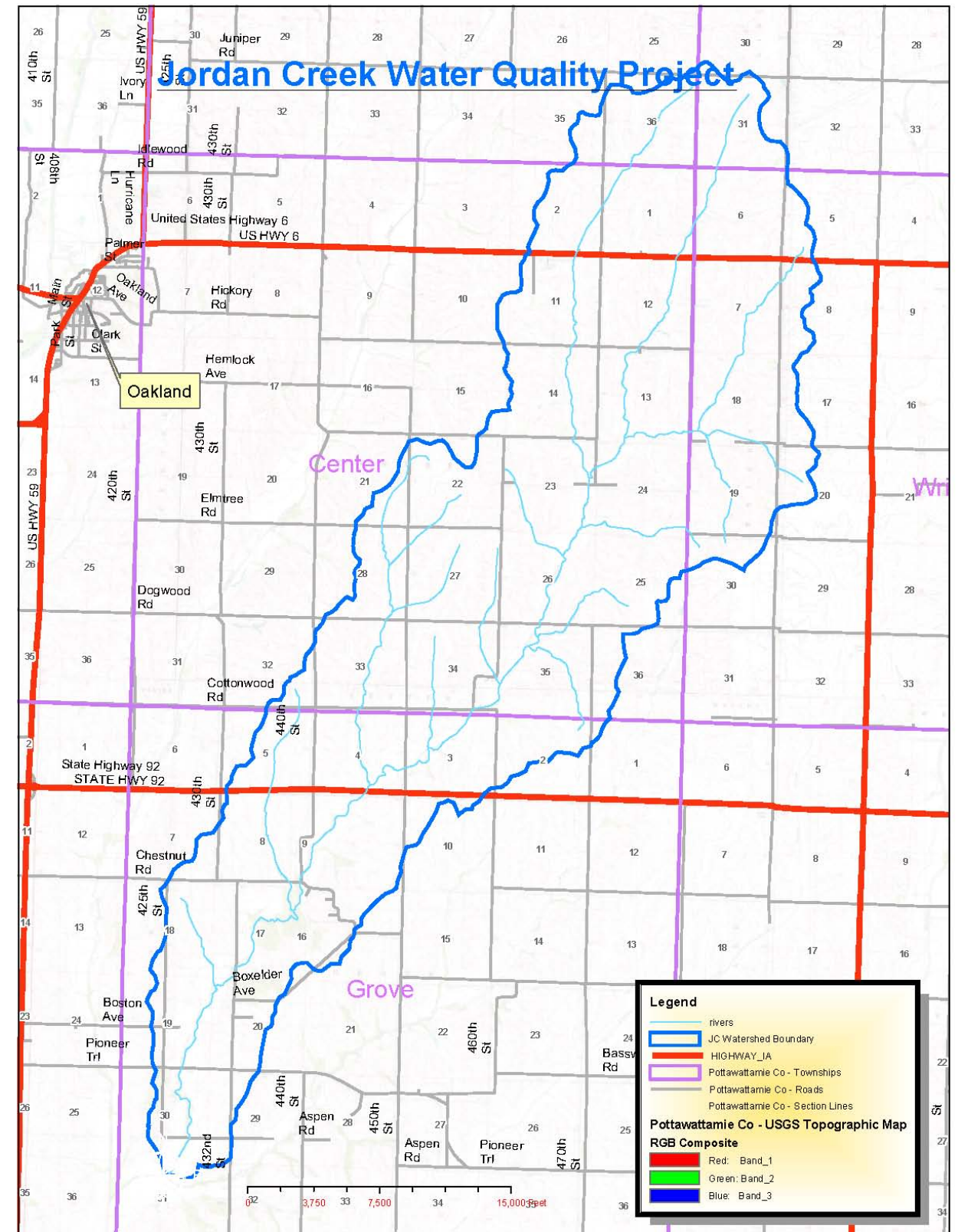
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Totals	\$222,246.25	\$13,222.23	\$133,091.95	\$75,932.07
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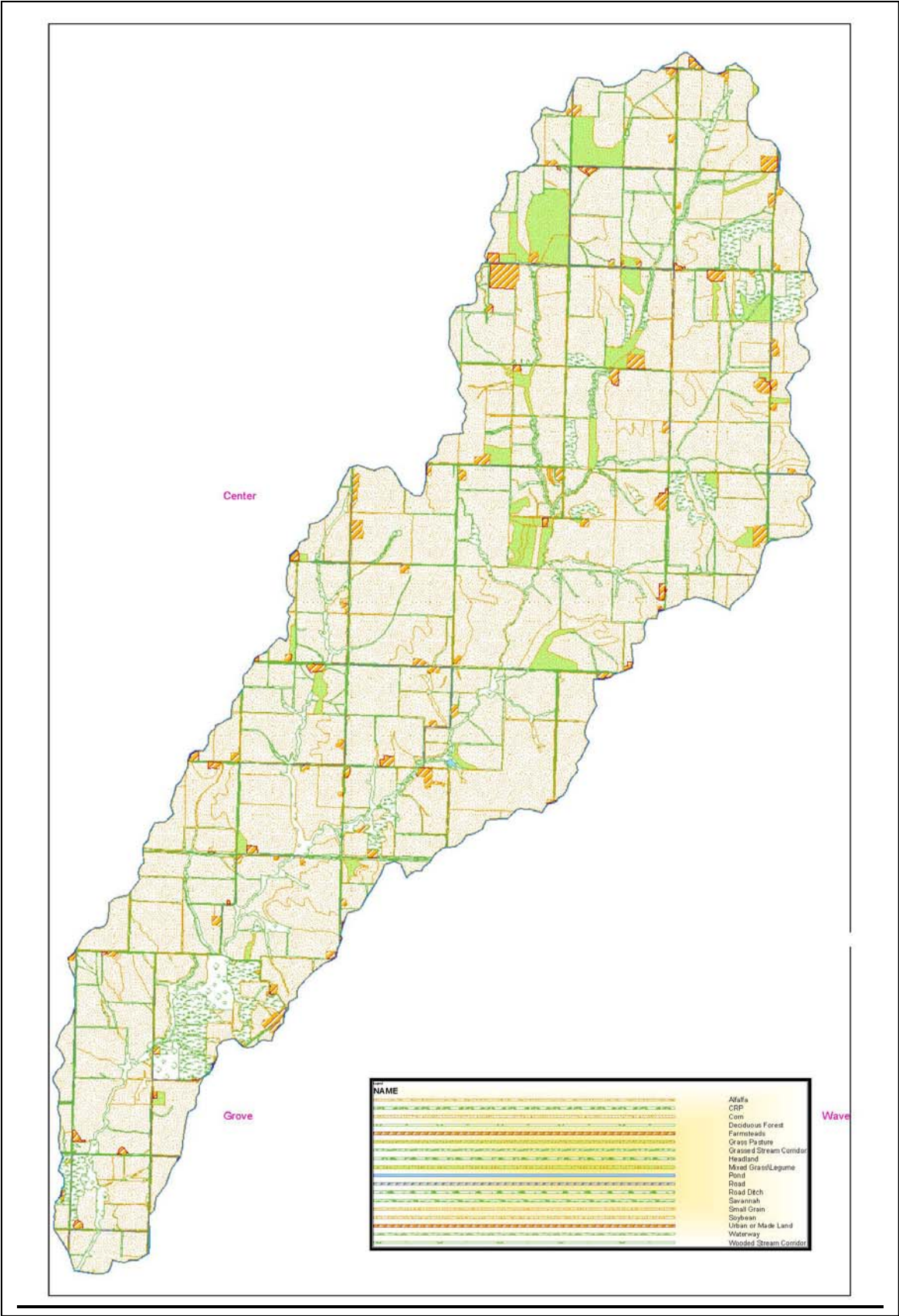
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DSC No:

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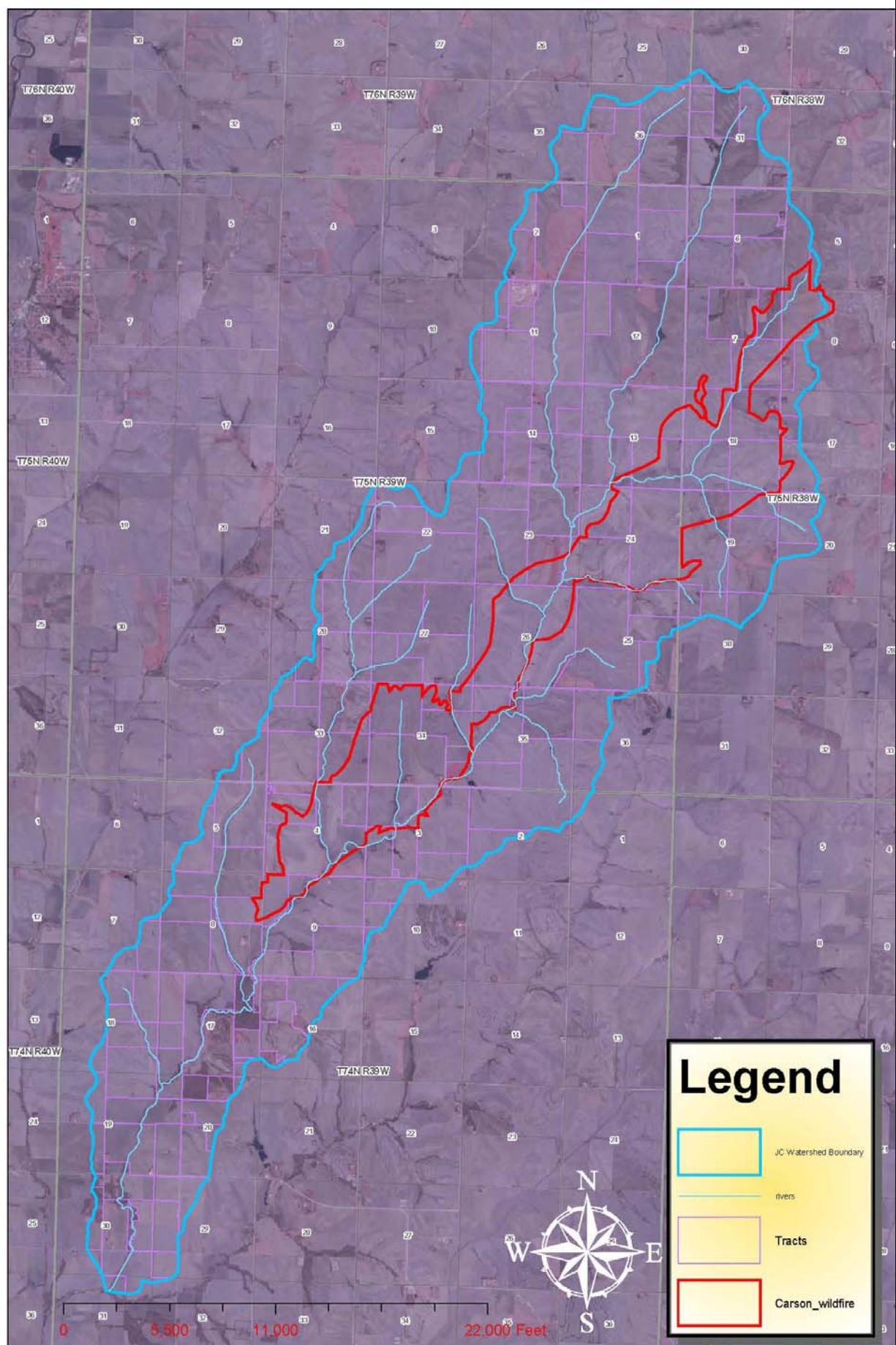


Land Use

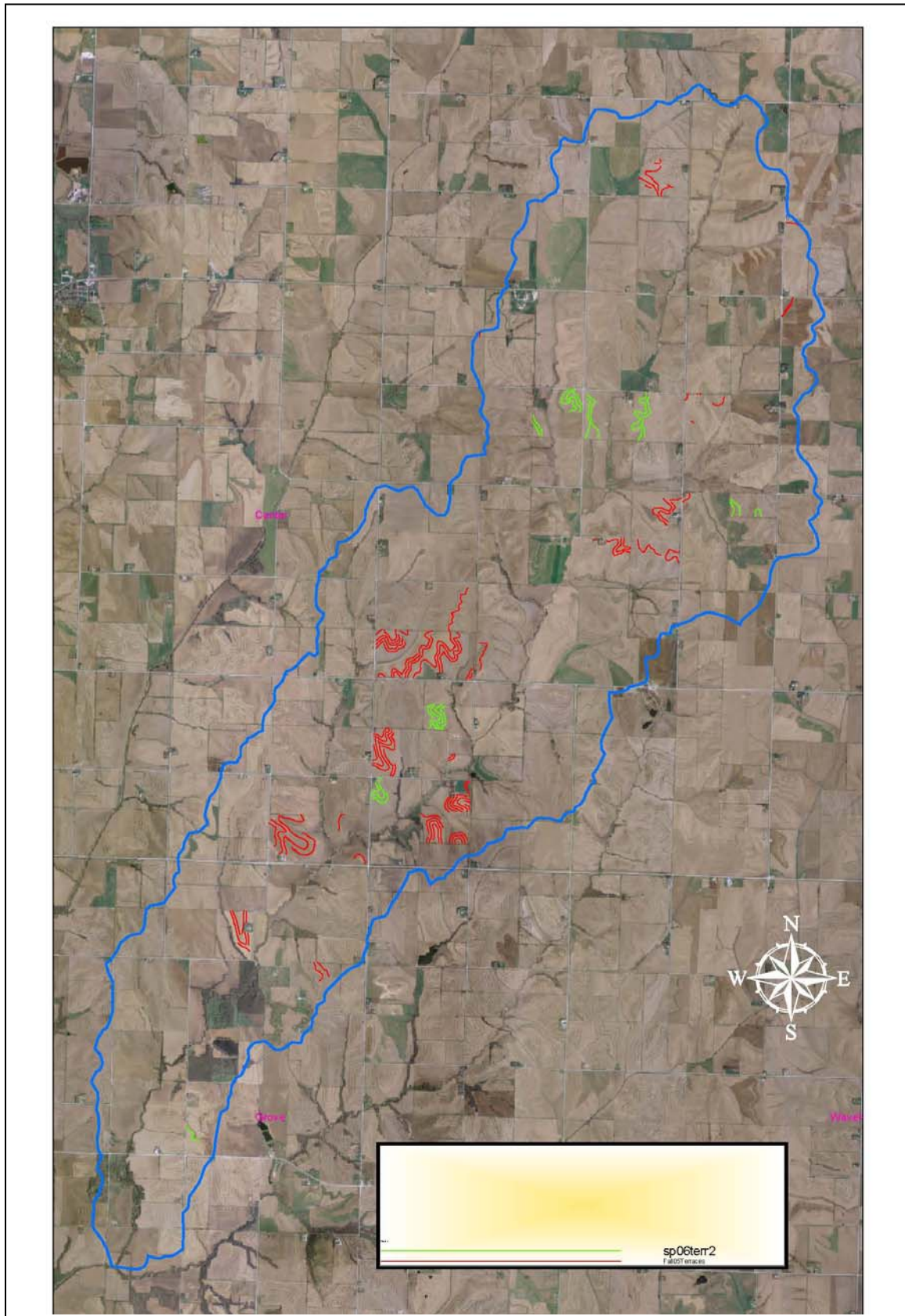


Burn Area

Jordan Creek Water Quality Project

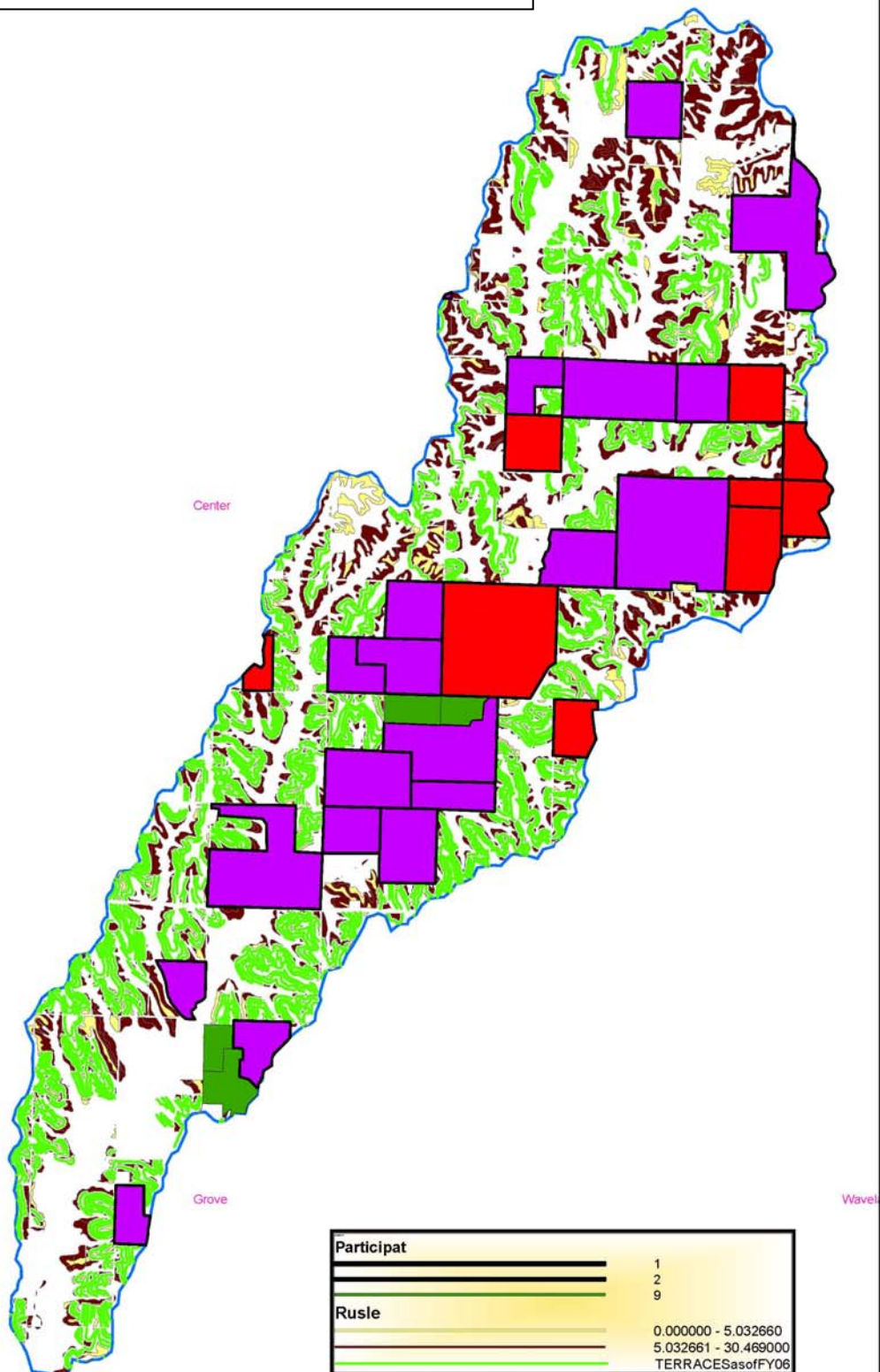


FY06 Terraces



Participating Landowners

* Brown areas are highly erodible crop land not already terraced & are not currently participating in the project= Where we need to focus more efforts!



PART I- BACKGROUND INFORMATION

The Water Resource

Jordan Creek is one of two major tributaries of Farm Creek in the East Nishnabotna River basin and is located in southeastern Pottawattamie County between Carson and Griswold. The watershed covers 20,666 acres. There is one named tributary, Spring Creek, which empties into Jordan Creek approximately six miles from its confluence with Farm Creek. Jordan Creek serves as a water source for wildlife and domestic livestock. It is classified by Iowa DNR as a potential fishery.

Land Use in the Jordan Creek Watershed consists of 86% cropland; 85% of the cropland is in a 2yr. rotation alternating corn and soybean. The remainder of the watershed is Grass and Savannah Pasture (6.2%), Timber (4.5%), Farmsteads (2.2%) and other Urban and Industrial areas (1.1%). There are 477 acres of CRP land in the watershed. Cropland management practices include no till or mulch till. Existing BMP's in the watershed include terraces, waterways, buffer strips, and grade control structures.

Livestock operations in the watershed are primarily cattle oriented. There are 13 cow/calf operations and 5 open lot cattle feeding operations. There is 1 hog confinement building and 5 small pastures adjacent to farmsteads with horses. Cow/calf is on continuous pasture. There are nine pastures where animals are watering directly from the stream.

Water Resource Related Problems

Jordan Creek is on the 2002 EPA Section 303d List of Impaired Waters as a water body with a biological (aquatic life) impairment of unknown cause(s). The recommendation is for further sampling to determine the cause. Sampling took place in 1994. There were 6 of 7 expected fish species present but in low numbers, suggesting a threat to the aquatic community. Water turbidity and evidence of recent flooding were noted as potentially affecting the sampling. Excessive sediment accumulation was noted in slack water areas. This suggests the nature of the biological impairment is in part due to excessive soil erosion.

Jordan Creek Watershed, in Pottawattamie County, is part of a 22 county area where the Hungry Canyons Alliance, a non-profit corporation, was formed to research and implement solutions to the problem of stream channel erosion in the deep loess soils region of western Iowa. Hungry Canyons Alliance structures work by using a raised weir section that decreases stream energy and grade, prevents down cutting, creates an upstream backwater condition, traps sediments upstream, and reduces downstream sediment flow. The channel of Jordan Creek is not actively eroding but there is active channel degradation in many of the small tributaries. There is also channel degradation taking place as small cutbacks form along the incised channel of the main stem of the creek. The Hungry Canyons Alliance has one Landowner Structure protecting a tributary in the upper reaches of the watershed from further channel degradation. There are also two NRCS-EWP grade control structures and five EWP bank stabilization sites in its channel. These early structures, while providing many environmental benefits, do however inhibit fish migration. Hungry Canyons has recently modified the design of these structures to include a flat 20:1 back slope which enables fish to swim over the structure. The structures in Jordan Creek are in need of modification and will continue to inhibit fish migration until they are refurbished. It is believed that these structures play a major role in the Lack of Aquatic Life impairment placed on the stream by the EPA.

In March of 2005 a 3,500 acre wildfire burned through the heart of the Jordan Creek Watershed. Homes were lost, fence lines burned, and thousands of acres of cropland were stripped of residue, leaving the precious loess soil barren and exposed to the elements. After the fire, wind and rain deposited massive amounts of soil into road ditches, fence rows, terraces, ponds, and Jordan Creek itself. The siltation following the fire devastated the existing conservation practices, filling terraces and ponds, rendering them useless and causing hundreds of thousands of dollars in damage.

PART II- PROGRESS DESCRIPTION

In 2006 significant strides were made which will provide great benefits to water quality and the aquatic communities of Jordan Creek. Terrace projects from last fall and spring produced 79,000 feet of new terraces constructed. Terraces which have maintenance agreements which have expired are eligible for 50% cost share

through the district. In Fall 05 and Spring 06 83,350 feet of terraces were refurbished, 2,650 feet of waterways were built and twenty and a half acres of cropland were seeded to a pasture mix.

The first meeting of the Jordan Creek Advisory Board was held January 26th at 9 a.m. in the NRCS building in Oakland. Members of the board were nominated by the East Pottawattamie SWCD commissioners. The board is made up of landowners, operators, and farm managers who work and live in the Jordan Creek Watershed. The responsibilities of the advisory board are to advise the SWCD on the best ways of curing the water quality impairments of Jordan Creek.

On March 3rd the Hungry Canyons Alliance approved funding for the modification of two weir structures on Farm Creek. The two weirs to be modified are located below the junction of Jordan and Farm Creeks. These structures have inhibited fish passage for ten years since construction in May of 96. Studies conducted by Iowa State University and the DNR have proven that these structures do not allow for fish passage. Plans are to modify the structures to a 20:1 slope which is much more suitable for fish passage. The fish passage modifications will allow aquatic species such as the channel catfish to migrate upstream into Farm and Jordan Creeks. A noticeable change should be seen in the numbers and diversity of aquatic species in both streams. These modifications are a key component in curing the "Lack of Aquatic Life" impairment placed on the stream by the EPA. The fish passage modifications should be completed by fall of 2008. The modifications teamed with a massive conservation effort in the Jordan Creek Watershed should make for good fishing in the years to come.

In December Pheasants Forever donated \$5,000 to be used for filter strip incentives in Jordan Creek. This money led to the signing of 6 contracts for a total of twenty acres of native grasses planted along streams. The remaining money will be used in new contracts not only in Jordan Creek but the entire conservation district.

The next fiscal year is looking like it will be a busy one. At this time I have cost share applications for 10 terrace jobs, 4 grade stabilization structures, and a (350) sediment basin. Landowners in East Pottawattamie County are not accustomed to signing up ahead of time for terraces. East Pottawattamie has always been blessed with a tremendous amount of cost share dollars. Many of the jobs for next fall and spring were sold through one-on-one conversations with landowners. This summer and fall should prove to be a very exciting time in the watershed.

PART III- MODIFICATIONS AND PROBLEMS

The original budget separated out many items which were funded with different funding sources. For example, a terrace job may receive money from 319 for earthwork, and the tile would be paid with LOST funds. We had money for tile through WSPF but this could only be used with terrace earthwork funded through WSPF. On top of this you may have varying cost share amounts for different terraces in the same field, this led to major accounting headaches. The planning and budgeting of tile in Eastern Pottawattamie County is very difficult. Because of the nature of loess soils a tile estimate cannot be made until the terrace is actually laid out. Level terraces, in this county, traditionally do not require tile but in certain instances, in a sharp draw, tile is required to straighten a terrace and make it farmable. At the end of the year our budget reflected this dilemma.

The other problem came in the separation of 65% and 75% cost share for terraces. When the project coordinator came on board the district was separating the two by the rule: "If a field is D sloping and contains no terraces it will receive 75% cost share". This was fine but we soon learned that practically all terrace jobs fit these criteria. Much of the 65% money was left unspent. The other factor is that the remaining land to be terraced in Jordan Creek is land owned by individuals who are tight with their money and do not see 65% cost share as a good deal. Using last year's average costs makes most cost share payments fall short of the 65% cost share promised by the district. The FY07 budget combines terraces and tile and is primarily 75% cost share.

Changes made in the FY07 budget which will make more funding available and create flexibility in how they are used. The changes will make budgeting much easier and will allow us to do more work with less money on the books.

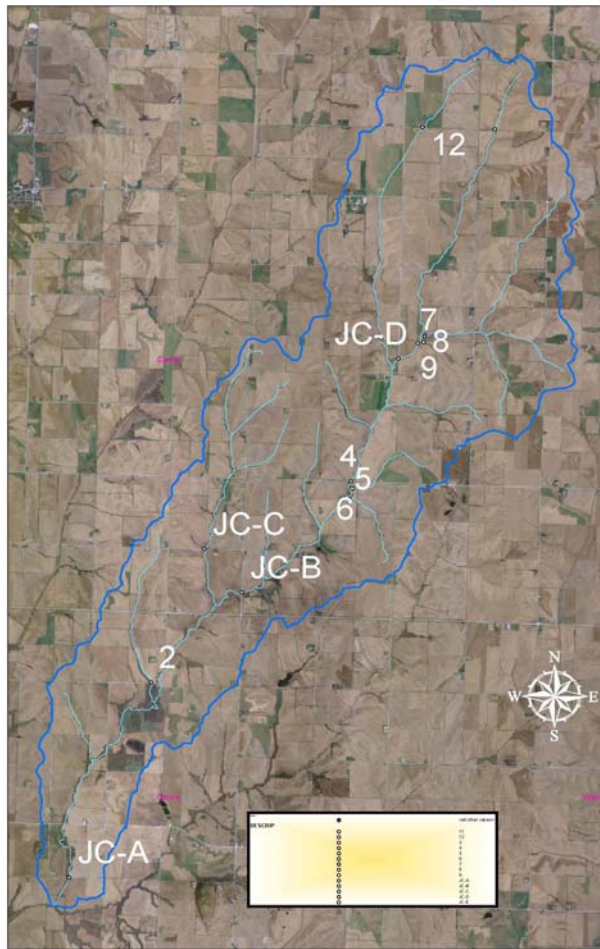
In FY07 a line item will be added which will allow 350 sediment basins to be constructed in cattle feedlots.

PART IV- WATER MONITORING

A large amount of monitoring was done in the past, using the IOWATER monitoring system, which has established a baseline of data which will help in identifying point and non-point sources of pollution in the watershed. The previous monitoring plan called for weekly turbidity, nitrate, nitrite, and phosphate testing along with biannual biological sampling. Two summer interns were hired to conduct the monitoring. Now, with no interns, this proved to be too time consuming

making for too heavy of a workload for available staff personnel. Looking back on baseline data the project coordinator noticed no significant jumps in phosphate, nitrite, and nitrate tests. We now take these tests during critical times of the year. Turbidity testing now takes place after major storm events.

In addition to IOWATER samples have been collected and sent to Iowa State University for analization of E-Coli, Total Phosphorus, and Total Suspended Solids. This data will confirm results of the IOWATER tests and also help track down sources of pollution in the watershed.



<u>Test Site#</u>	<u>Name</u>	<u>Avg Reading</u>
<u>1-JC-A</u>	<u>IOWATER-(JC-A)</u>	<u>11.0</u>
<u>2</u>	<u>Dollens Woods</u>	<u>25.1</u>
<u>JC-B</u>	<u>JC-B</u>	<u>10.0</u>
<u>3-JC-C</u>	<u>Spring Creek-(JC-C)</u>	<u>15.9</u>
<u>4</u>	<u>Kitchen</u>	<u>12.0</u>
<u>5</u>	<u>Crossing</u>	<u>32.5</u>
<u>6</u>	<u>Sumac</u>	<u>25.8</u>
<u>JC-D</u>	<u>JC-D</u>	<u>23.3</u>
<u>7-JC-F</u>	<u>Dam</u>	<u>22.5</u>
<u>8</u>	<u>Meadowlark</u>	<u>30.7</u>
<u>9</u>	<u>Old Bridge</u>	<u>14.6</u>
<u>10-JC-E</u>	<u>Big Tube-(JC-E)</u>	<u>13.0</u>
<u>12</u>	-	<u>5.0</u>
<u>13</u>	-	<u>44.0</u>

Wildfire



Hungry Canyons Structure



Jordan Creek Advisory Board



Waterway



Pasture Planting/ Filter Strip



Terrace



Water Quality Day Camp



